

## DNA MOLECULES ENCODING BACTERIAL LYSINE 2,3-AMINOMUTASE

### ABSTRACT OF THE DISCLOSURE

Purified  $\beta$ -amino acids are of considerable interest in the preparation of pharmacologically active compounds. Although enantiomerically pure  $\beta$ -amino acids, such as L- $\beta$ -lysine, can be produced by standard chemical synthesis, this traditional approach is time consuming, requires expensive starting materials, and results in a racemic mixture which must be purified further. However, DNA molecules encoding lysine 2,3-aminomutase can be used to prepare L- $\beta$ -lysine by methods that avoid the pitfalls of chemical synthesis. In particular, L- $\beta$ -lysine can be synthesized by cultures of host cells that express recombinant lysine 2,3-aminomutase. Alternatively, such recombinant host cells can provide a source for isolating quantities of lysine 2,3-aminomutase, which in turn, can be used to produce L- $\beta$ -lysine *in vitro*.